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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/537,189 | 06/02/2005 | Geyi Wen | 10809-US-PAT(85047US) | 1286 |
| 27975 | 7590 | 04/27/2006 | EXAMINER | |
| ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A. 1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE P.O. BOX 3791 ORLANDO, FL 32802-3791 | | | CHEN, SHIH CHAO | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2821 | |

DATE MAILED: 04/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

B/C

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|------------------------------|--------------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/537,189 | Applicant(s) WEN ET AL. | |
| | Examiner Shih-Chao Chen | Art Unit 2821 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-25 and 27 is/are rejected.
- 7) ☒ Claim(s) 13 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The references cited in the Search Report PCT/CA 02/01943 have been considered, but will not be listed on any patent resulting from this application because they were not provided on a separate list in compliance with 37 CFR 1.98(a)(1). In order to have the references printed on such resulting patent, a separate listing, preferably on a PTO/SB/08A and 08B form, must be filed within the set period for reply to this Office action.

Claim Objections

2. Claim 26 is objected to because of the following informalities: in line 2, "a fine tuning tab" should be changed to --a first fine tuning tab--. Appropriate correction is required.

3. Claim 26 is objected to because of the following informalities: in line 4, "a fine tuning tab" should be changed to --a second fine tuning tab--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2821

5. Claims 1-3, 5, 9-11, 14-15, 22-25 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Edimo et al. (U.S. Patent No. 6,798,382).

Regarding claims 1 and 22, Edimo et al. teaches in figures 1-4 a multiple-band antenna having first and second operating frequency bands, comprising: a first patch structure [11, 24, 12] associated primarily with the first operating frequency band; a second patch structure [10] electrically coupled to the first patch structure and associated primarily with the second operating frequency band; a first slot structure [3] disposed between a first portion [11] of the first patch structure and the second patch structure and associated primarily with the first operating frequency band; and a second slot structure [4] disposed between a second portion [12] of the first patch structure and the second patch structure and associated with the first operating frequency band and the second operating frequency band (It is inherent to have transceivers in the radio communication apparatus).

Regarding claim 2, Edimo et al. teaches in figures 1-4 the multiple-band antenna of claim 1, wherein dimensions of the first patch structure [11, 24, 12], the first slot structure [3], and the second slot structure [4] primarily determine the first operating frequency band, gain of the multiple-band antenna in the first operating frequency band, and impedance of the multiple-band antenna in the first operating frequency band.

Regarding claim 3, Edimo et al. teaches in figures 1-4 the multiple-band antenna of claim 2, wherein dimensions of the second patch structure [10] and the second slot structure [4] primarily determine the second operating frequency band, gain of the

multiple-band antenna in the second operating frequency band, and impedance of the multiple-band antenna in the second operating frequency band.

Regarding claim 5, Edimo et al. teaches in figures 1-4 the multiple-band antenna of claim 1, wherein the first patch structure [11, 24, 12] is a substantially C-shaped structure comprising a first end portion [11], a second end portion [12], and an adjoining portion [24] coupling the first end portion and the second end portion, wherein the second patch structure [10] is electrically coupled to the adjoining portion wherein the first slot structure [3] is disposed between the first end portion and the second patch structure, and wherein the second slot structure [4] is disposed between the second end portion and the second patch structure.

Regarding claims 9 and 25, Edimo et al. teaches in figures 1-4 the multiple-band antenna of claim 1, wherein the first operating frequency band is a Global System for Mobile communications (GSM) frequency band, and the second operating frequency band is a Digital Cellular System (DCS) frequency band (See Abstract).

Regarding claim 10, Edimo et al. teaches in figures 1-4 the multiple-band antenna of claim 9, wherein the GSM frequency band is GSM-900, comprising a transmit sub-band of 880-915.MHz and a receive sub-band of 925-960MHz (See Abstract).

Regarding claim 11, Edimo et al. teaches in figures 1-4 the multiple-band antenna of claim 10, wherein the DCS frequency band comprises a transmit sub-band of 1710-1785MHz and a receive sub-band of 1805-1880MHz (See Abstract).

Regarding claim 14, Edimo et al. teaches in figures 1-4 the multiple-band antenna of claim 1, wherein the first patch structure [11, 24, 12] and the second patch structure [10] comprise electrically conductive material selected from the group consisting of; copper, aluminum, silver, and gold.

Regarding claims 15 and 27, Edimo et al. teaches in figures 1-4 the multiple-band antenna of claim 1, implemented in a wireless mobile communication device (See Abstract) consisting of: cellular telephones.

Regarding claim 23, Edimo et al. teaches in figures 1-4 the wireless mobile communication device of claim 22, further comprising: a housing (i.e. cellular telephone) substantially enclosing the wireless mobile communication device (i.e. radio communication apparatus) and having front, rear, top, bottom, and side surfaces, wherein the multiple-band antenna [1] is mounted in the wireless mobile communication device adjacent the top and rear surfaces.

Regarding claim 24, Edimo et al. teaches in figures 1-4 the wireless mobile communication device of claim 23, further comprising a keyboard, a display, a speaker, and a microphone mounted within the front surface (i.e. the cellular telephone).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edimo et al. (Cited above) in view of Pankinaho (U.S. Patent No. 6,140,966).

Edimo et al. teaches every feature of the claimed invention in paragraph 5 except for a plurality of tuning structures.

Pankinaho teaches in figures 1-6 a plurality of tuning structures [110, 120].

In view of the above statement, it would have been obvious to one having ordinary skill in the art at the time the invention was made by using tuning elements as taught by Pankinaho in order to have several frequency ranges (See Abstract).

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-10, 12, 14-24 and 27 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-

10, 12, 14-24 and 27 of copending Application No. 10/723,840. Although the conflicting claims are not identical, they are not patentably distinct from each other because the applications are claiming common subject matters.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Allowable Subject Matter

10. Claims 13 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-Chao Chen whose telephone number is (571) 272-1819. The examiner can normally be reached on Monday-Thursday from 7 AM to 5:30 PM, Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2821

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shih-Chao Chen
Primary Examiner
Art Unit 2821

Shih-Chao Chen
SHIH-CHAO CHEN
PRIMARY EXAMINER

SXC
April 24, 2006